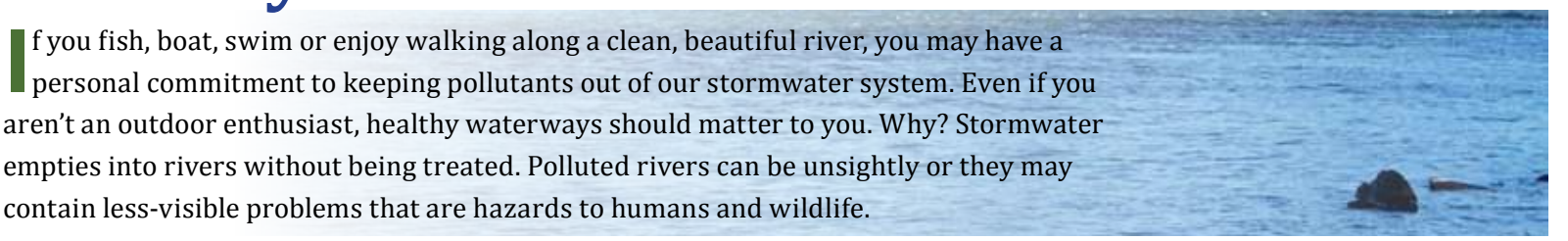
stormwater Connections

from raindrop to river

Fall 2012

Published by the City of Eugene Stormwater Management Program

Healthy rivers: Who cares?



If you fish, boat, swim or enjoy walking along a clean, beautiful river, you may have a personal commitment to keeping pollutants out of our stormwater system. Even if you aren't an outdoor enthusiast, healthy waterways should matter to you. Why? Stormwater empties into rivers without being treated. Polluted rivers can be unsightly or they may contain less-visible problems that are hazards to humans and wildlife.

A toxic past

If you could step back in time, as recently as 80 years ago you'd see that cities treated the water as something closer to an outhouse, dumping industrial waste, sewage and stormwater runoff directly into it. The first attempt to protect our rivers was made in 1948 when congress passed the Federal Water Pollution Control Act. Water quality had reached an all -time low; nothing could survive in the Willamette River. Locally and across the country waterways were in dismal condition.

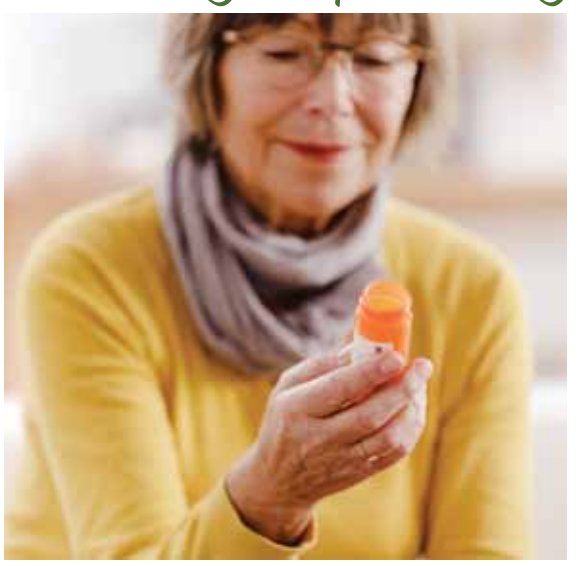
Those who contributed to the pollution problem were in no hurry to change the way they managed discharges. It took 24 years before the law was amended, reorganized and expanded to become the Clean Water Act. Still another 15 years passed before the act was amended again. This time, industries, certain types of businesses and even cities had new guidelines to follow and some had stringent reporting requirements.

continued on page 3

The Clean Water Act turned 40 in October. Visit happyrivers.org for a link to an inspiring video about the history of the people and actions that helped turn our waterways clear again.

What's Inside...

New Drug Disposal Program in Lane County



While cleaning and reorganizing your home, you may find items you no longer use or want. You might clean your closets, garage and garden shed, but one area you may overlook is your medicine cabinet. Over time, medicines become outdated or are no longer needed. They create opportunities for accidental poisoning or drug abuse while on the shelf, but how should you dispose of them?

Flushing drugs down the toilet isn't recommended since current wastewater treatment systems are not designed to remove pharmaceutical drugs. Drugs tossed in the garbage go to the landfill where they may leach out and discharge to wastewater or go directly into surface water. The best solution for disposal is a drug a take-back program.

continued on page 3

Prsrt Std
US Postage Paid
Eugene, OR
Permit No. 360
ECRWSS

RESIDENTIAL CUSTOMER

CITY OF EUGENE
Public Works
Stormwater Management Program
101 East Broadway, Suite 400
Eugene, OR 97401

Stormwater Pollution Spotlight

High Zinc Levels Found in Soil and Water

The world's zinc production is on the rise. Zinc is a common substance that occurs naturally in small amounts in soils, streams, groundwater, and plants but the concentration of zinc is increasing in the environment due to human activities.

Most zinc is used in manufacturing processes to produce a wide variety of consumer goods, such as tires, photocopy paper, paints, enamels, pharmaceuticals, and even cosmetics. Zinc is also used to protect steel from corrosion and is often found in galvanized sheet metal for building siding and roofing. And here in the Pacific Northwest zinc is often used to control moss on rooftops and other surfaces.

As these products age and deteriorate more and more zinc is released into the environment. Zinc can accumulate in soil and negatively affect the activity of organisms that help create healthy and productive soils. Zinc affects plant growth and can be toxic when the amount in soil exceeds the plant's capacity to absorb zinc. Fish and other aquatic organisms are affected by zinc when stormwater runoff from impervious surfaces in urban areas enters local rivers and streams. Water quality monitoring done by the City of Eugene has found that the amount of zinc in Amazon Creek is increasing over time and often exceeds Oregon's water quality standard for the protection of fish.

You can help reduce zinc in our environment:

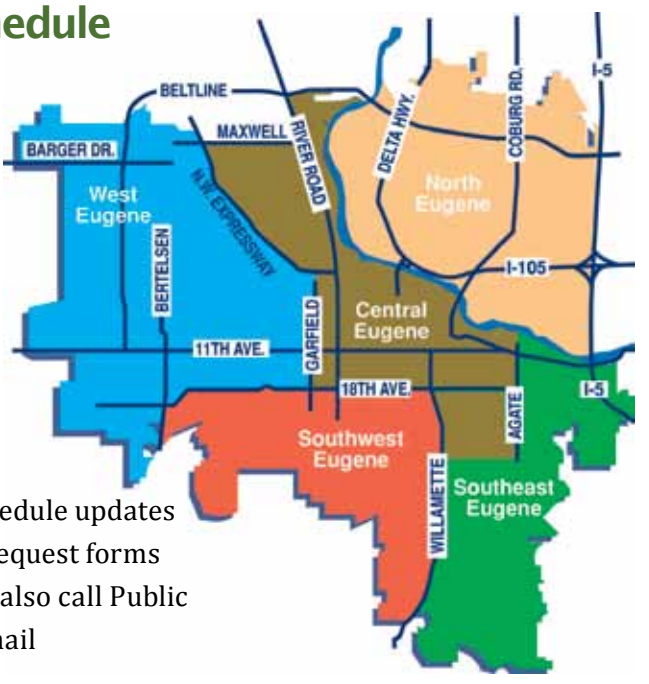
Use moss control agents that do not contain zinc.

Dispose of all paint and hazardous waste properly. For details, call 541-682-4120.

Dispose of unused pharmaceuticals properly. Use a drug drop-off box (see cover article) or ask your pharmacist about disposal options.

2012-13 Leaf Collection Schedule

West/Central Eugene:	Nov. 13 to Nov. 26 Dec. 27 to Jan. 7
North Eugene:	Nov. 21 to Dec. 6 Jan. 4 to Jan. 15
Southeast Eugene:	Dec. 5 to Dec. 17 Jan. 14 to Jan. 23
Southwest Eugene:	Dec. 14 to Dec. 28 Jan. 22 to Jan. 28



For Leaf Program Information

Visit **www.eugene-or.gov/leaf** for schedule updates and online services such as leaf delivery request forms and requests to clean bike lanes. You may also call Public Works Maintenance, 541-682-4800 or e-mail pwmaintenance@ci.eugene.or.us

Instead of Miracle Grow, Use Miracle Leaves!

Did you know that you may be sitting on a pile of gardener's gold? This amazing plant nutrient and soil amendment is also FREE!

The mountain of leaves in your yard is sure to make your next garden a whopping success. Rodale's Book of Composting says, "Because trees have extensive root systems, they draw nutrients up from deep within the subsoil, and much of that mineral bounty is passed into the leaves. Pound for pound, leaves contain twice the mineral content of manure. The fiber in leaves aids in improving soil aeration and structure." If you give your leaves a year to break down, they will be even better at improving soil structure than fresh leaves. Decomposed leaves, called leaf mold, have the ability to hold 300–500 percent of their weight in water. This means less water is needed when leaf mold is mixed into the soil or used as a two-inch mulch on top. Mulching with leaf mold will prevent soil compaction caused by winter rains, and will keep weed seeds from germinating next spring and summer.

So hold onto that leaf pile and load up with Mother Nature's natural mineralizer. Your yard, vegetable garden and lawn will be glad that you did!

For more information, go to www.eugenerecycles.org and select the compost web pages to learn about compost demonstrations or to download a fact sheet about more ways to use this valuable resource.

Secure your load!

Trying to finish those end of the year chores? Please take the time to secure your load before driving off. Paints, solvents, pesticides and other liquid wastes can easily fall out of vehicles if they are not properly fastened. Once these liquids hit the street, they are difficult to keep out of the storm drain, especially when it has been raining. City curb inlets and catch basins drain directly to open waterways, most often the Willamette River and Amazon Creek.

A quick inspection to make sure nothing is loose in or on a vehicle before you drive off can save a lot of time and hassles. Recently, a paint can fell out of the bed of a truck, hit the car behind it and splattered paint everywhere, causing damage to several vehicles and run-off into a storm drain. Clean up was no small feat. Another day, paint was spilled in a busy intersection during a hard rain and cleanup took several hours.

A similar example is a fuel can left on the tailgate of a truck. When the truck drives away, the fuel can falls and spills close to a gallon of fuel in the street. Spills like this pose several hazards. First, there is a safety hazard to vehicles and pedestrians; second, there is a hazard to the open waterways if the fuel gets into the stormwater system and; third, the risk to city staff that have to work on a busy street to clean up.

Make safety a priority before you drive off anywhere. And if you are ever traveling behind a vehicle with a load that looks questionable, give them plenty of room so that you are not the recipient of whatever they are carrying.

Please take the time to secure your load. Spills are dangerous to other drivers and the environment.

Stormwater Resources
www.eugene-or.gov/stormwater

Contact these City of Eugene offices for additional information on stormwater-related topics:

Stormwater Maintenance (clogged drain, leaves, street sweeping) 541-682-4800

Construction Site Erosion Prevention 541-682-8498

Hazardous spill (paint, auto fluids or toxics in street) 541-682-4800

Stormwater Utility Billing questions 541-682-4900

Stormwater Permit questions 541-682-8400

Healthy Rivers...continued from page 1

These days, the Willamette River is substantially better but still has room for improvement. Residential sources of stormwater pollution such as lawn chemicals, pressure-washing debris, vehicle fluids and loose soil from landscape projects continue to have a significant impact on water quality.

Overlooked hazards

Walk through any home improvement center, and you'll see rows of products designed to save time and solve a problem quickly — at a cost. Many ingredients have long-lasting effects in the ground. Pesticides get rid of all kinds of bugs, including those that are useful to plants. Antifreeze for your car is a must-have but even a few misplaced drops can be fateful to pets and children. Pressure washers are a handy way to clean a driveway or prep your house for painting, but if debris is directed down a driveway or into a street, it's a nuisance when it settles in a catch basin or flows to an outfall at the river.

You get the idea. A quick fix sometimes doesn't equal a healthy choice for those downstream.

Our underground stormwater system does a pretty good job of collecting and transporting runoff back to our waterways. Since it is often hidden from view, many people forget or don't realize that it isn't treated for pollutant removal before reaching its final destination. Protecting the health of the Willamette, Amazon Creek and any other waterways will take a village if we hope preserve our rivers now and for future generations.

Sometimes a quick fix can create a long-term problem. Read the warning label. If a product is hazardous to you, it may be a hazard to our waterways too.

Drop Boxes...continued from page 1

Fortunately, in Lane County there are several locations where you can safely dispose of unwanted or expired medicines (see sidebar at right). You can also ask your pharmacy about other disposal options.

Drop off boxes are free to the public and no questions will be asked. Please do not dispose of needles (sharps), thermometers, or liquids in the drop off boxes. For more locations in Lane County, visit **www.lanep2c.org**

DRUG TAKE-BACK DROP BOX LOCATIONS:

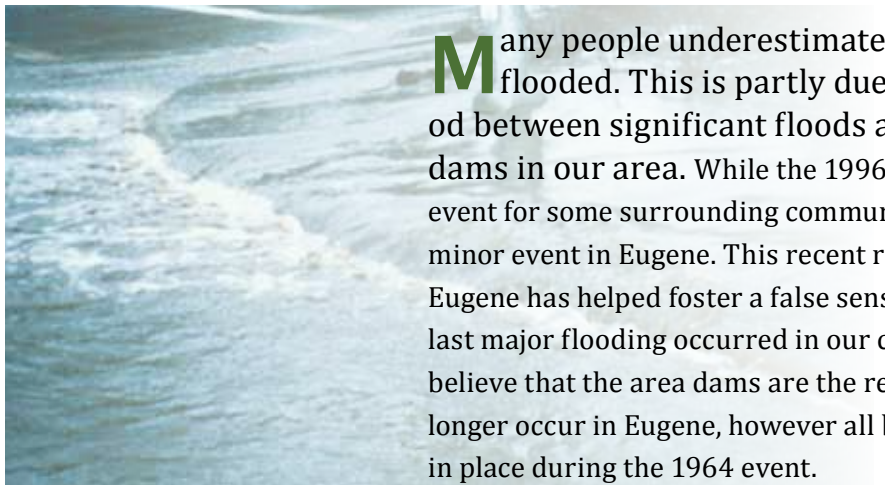
Eugene Police Dept. Lobby,
300 Country Club Road
Eugene
Open 24 hours

Lane County Sheriff's Office
Lobby
125 E. Eighth Avenue
Eugene
M-F 9 a.m. – 5 p.m.

Springfield Police Dept. Lobby
230 Fourth St
Springfield
M-F 8 a.m. – 5 p.m.

Winter Rains Bring Flood Risk

Consider Insurance and These Safety Tips



Many people underestimate the risk of being flooded. This is partly due to the long time period between significant floods and by the presence of dams in our area. While the 1996 flood was a significant event for some surrounding communities, it was a relatively minor event in Eugene. This recent relative lack of damage in Eugene has helped foster a false sense of security. In fact, the last major flooding occurred in our community in 1964. Many believe that the area dams are the reason that large floods no longer occur in Eugene, however all but one (Blue River) was in place during the 1964 event.

Eugene's major flooding sources are the Willamette River and Amazon Creek though there are many other tributaries, sloughs and streams. Additionally, localized flooding can occur almost anywhere due to unusual drainage conditions even during relatively small rain events.

Eugene home during flood of 1964

Alton Baker Park during flood of 2006

Understanding the Flood Risk

The "one hundred year flood" refers to the flood that has a one percent chance of occurring in any given year. It is the nationally accepted threshold for which flood insurance and most flood related development standards are regulated. To avoid confusion, it is increasingly being referred to as the Base Flood. The area expected to be inundated by this flood is known as the Special Flood Hazard Area (SFHA). **It is very important to note that even larger floods are possible, as are floods outside the SFHA due to local drainage problems.** Flooding is a natural function of the floodplain and development in these areas should be carefully considered. Flood damage in these areas should not be considered a natural disaster, but rather a manmade one.

Storms, snow melt from higher elevations, and high ground water all directly affect the chance of a flood occurring. Development can also be a factor by changing the hydrology within a watershed and therefore the severity and likelihood of a flood event occurring. Farming in the Willamette Valley filled and diverted natural waterways resulting in fewer but larger watercourses. Roads and buildings have displaced some natural areas that had historically functioned as flood storage. The removal of vegetation can increase water velocity and decrease the time it takes stormwater to reach low lying areas. Cumulatively, development can increase flooding severity and frequency. Conversely, dams upstream of our community have decreased the intensity and duration of significant flooding events. Unfortunately, they have not eliminated all flood risk. The Special Flood Hazard Areas (SFHA) mapped for our community are based upon the upstream dams being in place.

The City of Eugene encourages everyone who lives in or owns property in or near the floodplain to better understand their flood risk and ways they can minimize it.

Elevating homes and other structures within the Special Flood Hazard Area (SFHA) and purchasing flood insurance is a key way property owners can reduce their financial loss when a flood does occur. New structures within these areas are required to be elevated to one foot or more above the expected hundred year flood elevation. Keep in mind that even structures built to today's standards and those outside the identified SFHA could still be impacted by a flood event larger than the Base Flood.

Flood Insurance

Flood insurance is available regardless of whether a structure is located inside or outside the floodplain. According to FEMA, more than 25 percent of NFIP claims are filed for properties located outside the SFHA. **Federal Law requires a 30-day waiting period following the purchase of flood insurance, except for the initial purchase of a structure.** Don't wait until it rains to purchase flood insurance.

Automatic Flood Insurance Discount

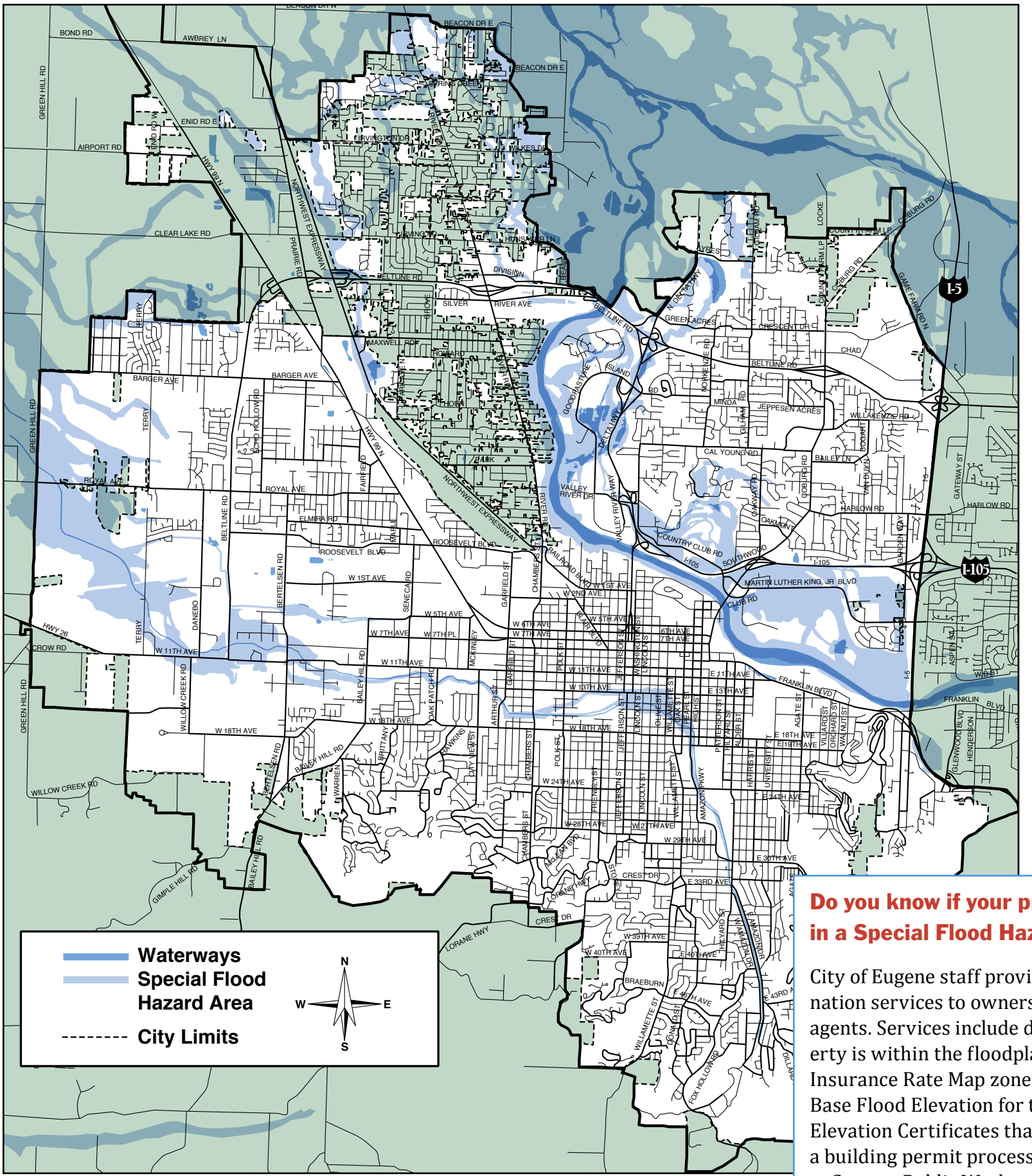
Everyone in Eugene receives a flood insurance premium discount due to the City's participation in the National Flood Insurance Program (NFIP) Community Rating System. Incorporated properties within the floodplain receive a 15% discount on flood insurance premiums because of the City's voluntary efforts. Those outside the regulatory floodplain receive a five percent discount. This discount is automatically calculated by insurance companies.

The NFIP offers two types of coverage: structural and contents. Structural coverage includes walls, floors, insulation, furnace, and other items permanently attached to the structure. Contents coverage may be purchased separately to cover the contents of an insurable building. Even renters may purchase contents coverage. Flood insurance may also pay a portion of the costs of actions taken to prevent flood damage.

Standard property insurance does not cover flood damage. Also, Federal law requires that structures within the SFHA be covered by flood insurance if financing for the structure is obtained from a federally regulated or insured source — a requirement that affects nearly all mortgages financed through commercial lending institutions. This mandatory requirement stipulates that structural coverage be purchased equal to the amount of the loan, or other financial assistance, or for the maximum amount available, which

continued on page 6

Floodplain Information Services: How to Learn More



According to FEMA, more than 25 percent of NFIP claims are filed for properties located outside the flood harzard area.

Purchasing flood insurance is a key way property owners can reduce their financial loss when a flood does occur. Everyone in Eugene receives a flood insurance premium discount due to the City's participation in the National Flood Insurance Program (NFIP) Community Rating System.

Do you know if your property is located within a Special Flood Hazard Area? Ask us!

City of Eugene staff provides flood map determination services to owners, lenders and insurance agents. Services include determining whether a property is within the floodplain or floodway, the Flood Insurance Rate Map zone for the property and the Base Flood Elevation for the property (if available). Elevation Certificates that have been obtained during a building permit process are also available.

Contact Public Works staff at the Permit and Information Center. Counter hours are Monday through Friday, 9 a.m. to 5 p.m., or call us at 541- 682-8400. More flood-related information is available on the City's website at www.eugene-or.gov/flood

is currently $250,000 for a single family residence. While the mandatory flood insurance purchase requirement has been in effect for many years, not all lending institutions have required flood insurance in the past. New penalties now apply for lending institutions that miss requiring the mandatory flood insurance purchase. Institutions now routinely review existing and new mortgages to determine whether structures are located within the floodplain and whether the structures in the floodplain have the necessary flood insurance. By law, it is the lender's responsibility to determine whether a structure is within the SFHA for insurance purposes.

Understanding the Floodplain and Regulations

Maintaining the flow capacity in streams requires cooperation and assistance to prevent flooding and bank erosion. Following are some suggestions and information for understanding how floodplains function and some applicable floodplain regulations that protect property and lives, while affording citizens the ability to obtain floodplain insurance.

Do not dump or throw anything into ditches or streams. A plugged channel cannot carry water. When it rains, the excess water must go somewhere. Trash and vegetation dumped into a stream degrades water quality of both the stream itself and its receiving waters, and every piece of trash contributes to flooding. Report drainageway problems to Public Works Maintenance at (541) 682-4800.

Remove debris, trash, loose branches, and vegetation. Keep banks clear of brush and debris to help maintain an unobstructed flow of water in stream channels. Do not, however, remove vegetation that is actively growing on a stream bank. Streamside vegetation is closely regulated by local, state, and federal regulations.

Obtain required permits for development within the floodplain. All new construction in the floodplain must be constructed to minimize damage during flood events. Requirements may include anchoring against movement by floodwaters, construction resistant to flood forces, construction with flood-resistant materials, and flood-proofing or elevating so that the lowest floor is at least one foot above the Base Flood Elevation. These standards apply to new construction and to substantial improvements of existing structures. Most other types of development within the floodplain also require a floodplain development permit. These activities include but are not limited to grading, cut and fill, installation of riprap, and other bank stabilization techniques.

Recognize the natural and beneficial functions of floodplains to help reduce flooding. Floodplains are a natural component of our environment. Understanding and protecting the natural function of floodplains helps to reduce flood damage and protects our resources. When flooding spreads across a floodplain, its energy is dissipated which results in lower flood flows downstream, reduced erosion of stream banks and channels, deposition of sediments higher in the watershed, and improved groundwater recharge. Floodplains are scenic, valued wildlife habitat, and sometimes suitable for farming. Poorly planned development in floodplains can lead to stream bank erosion, loss of valuable property, damage to property, increased risk of flooding to downstream properties, and degradation of water quality.

Beacon Drive area during flood of 1964

Flood Safety Tips

Do not drive through water. Drowning within submerged vehicles is the most common cause of death during a flood. Sinkholes, washed out roadways, and hidden debris can lurk below the surface even in areas otherwise known by the driver. Use travel routes recommended by local authorities and do not travel on roads that are posted as closed.

Do not walk through flowing water. Currents can be deceptive. Six inches of moving water can knock you off your feet. Drowning is the number one cause of flood-related deaths.

Stay away from power lines and electrical wires. The second leading cause of flood-related deaths is electrocution. Electrical currents travel through water. For your safety, do not attempt to move a downed wire. Report any downed power lines to the power company.

Have your electricity and gas turned off by the power or gas company before reentering a flooded structure. Some appliances, such as television sets, keep electrical charges even after they are unplugged. Remember to unplug wet appliances or motors and do not use them unless they have been taken apart, cleaned, and dried.

Be alert for gas leaks. Pipes and housing foundations can be disturbed during a flood. Use a flashlight to inspect for damage. Don't smoke or use candles, lanterns, or open flames unless you know the gas has been turned off and the area is ventilated.

Look before you step. After a flood, the ground floor may be covered with dangerous debris. Remember that floors and stairs covered with mud can be slippery.

Dispose of and clean damaged items appropriately. Flood waters carry hazardous chemicals and petroleum products, and can result in future problems with mold and mildew. Water-soaked drywall, carpet, insulation, mattresses, ducting, and similar items must be properly disposed of. Clothing should be thoroughly cleaned before wearing.

Prepare an evacuation plan. Preparing an evacuation plan for all types of emergencies is a good idea. All members of your household should know your plan, which should include a meeting place outside the house and an escape route away from flood waters and other hazards. More emergency preparedness information is available on the City's website.

Learn more at www.eugene-or.gov/flood

wetlands & waterways

Eugene Park Stewards Join the 4th Annual Great Willamette Cleanup

More than 200 volunteers took time on Saturday, October 6, to "Get Dirty for Good" by helping to clean up the urban stretch of the Willamette River from Island Park to Beltline Road.

Eugene Park Stewards partnered with Willamette Riverkeeper, REI, City of Eugene Outdoor Program, University of Oregon Outdoor Program and Willamalane Parks and Recreation to organize this successful event. Volunteers from the community, HIV Alliance, Willamette Kayak and Canoe Club and the UO Holden Center participated in this regional project as part of a 187-mile effort stretching through the entire Willamette Valley from Eugene-Springfield to Portland.

Local volunteer teams picked up more than 22 cubic yards of trash including tires, sleeping bags, a swimming pool, shopping carts and other debris from along the Ruth Bascom Riverbank Trail and Willamette River. Volunteers completed their day at Maurie Jacobs Park in Eugene with a free lunch provided by Oakway Catering and celebration with Eugene Mayor Kitty Piercy. For more information, contact Eugene Park Stewards South Region Volunteer Coordinator Carrie Karl at 541-682-4850 or carrie.l.karl@ci.eugene.or.us.

Volunteers enjoyed a beautiful autumn day while cleaning along the banks of the Willamette River. More than 22 cubic yards of debris were collected between Island Park and the Beltline bridge.

Eugene

Stormwater Connections is published by the City of Eugene Public Works Department to enhance awareness of stormwater and related surface water management issues.

Editor: Kathy Eva
Designer: Jeffrey Jane Flowers

For more information, contact
kathy.a.eva@ci.eugene.or.us
(541) 682-2739

Lily's Pad

an educational page for kids of all ages!

Hi folks! I'm Lily, the Pacific chorus frog, and I help the City of Eugene teach people about stormwater in our community. Being "Green" is just one way to help keep plants, wildlife and our whole planet healthy by recycling, reusing and understanding how we use natural resources.

Learn more about stormwater and water pollution on our new website at happyrivers.org There you'll find educational materials (including the complete SPLASH! curriculum) videos, and links to some of our favorite websites.

It's fun and easy to be GREEN!

And no, I'm not talking about turning into a frog. I want to tell you about the Oregon Green Schools program that helps students and their schools to learn about recycling, reuse, alternative transportation, energy and water conservation, school gardens and composting—all put into practice by creating a Green Team!

Green Team members are involved in making each school a better, healthier place for learning. Being on the Green Team is a way for students to learn leadership skills and how to manage projects. The Team also discovers what it means to live in a watershed, use natural resources including water and energy, and think about important environmental topics like pollution.

How can a new Green Team get started? Every new team recieves guidance from Oregon's Green Team coordinators and partner agencies (see below). Each team is encouraged to reach out to others in their school through displays, events, web sites, video and other media so the team and practices continue to grow.

A Green Team can be any size, but a good minimum is at least two teachers, two parents or community volunteers, and five students. Parents and volunteers are an important part of the program, as they can help organize the team's activities and support both the students and the teachers.

Schools that are certified as Oregon Green Schools can also receive a $500 grant from the City of Eugene and Lane County.

Wouldn't it be fun to use that money to create more green projects at your school? So far, there are 39 Oregon Green Schools in Lane County, including Premier Level Green Schools Spencer Butte Middle School, and Cesar Chavez and Adams Elementary. Bethel's Green Schools include Shasta, Clear Lake, Danebo, Fairfield and at Premier Level Willamette High.

Find out if your school has a Green Team that you can join, or encourage a group of your classmates to start a new Green Team. Soon you'll know how really great it is to be Green!

For a full list of Oregon Green Schools, ideas about programs and more information about how you can get involved, visit **oregongreenschools.org** or contact Joshua Frankel, Regional Oregon Green Schools Coordinator (Eugene/Lane County) at greenschools@live.com or 541-636-0096.

Green Teams of teachers, students and volunteers get involved with conservation, recycling, composting and growing food crops at their schools. They also encourage participation in activities and programs throughout the community to spread Green practices.

Top to bottom: Earth Day at Cal Young Middle School, a high school group tours a local orchard, and a greenhouse at Clear Lake Elementary.